CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 91-090
NPDES NO. CA0004910

AMENDING WASTE DISCHARGE REQUIREMENTS FOR:

THE DOW CHEMICAL COMPANY
WESTERN DIVISION, PITTSBURG PLANT
PITTSBURG, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. This Board, on June 21, 1989, adopted Waste Discharge Requirements, Order No. 89-093, for The Dow Chemical Company, Western Division (hereinafter called the discharger). Order No. 89-093 regulates the discharger's wastewater discharges to New York Slough. The Board amended the order on December 12, 1990 by adoption of Order No. 90-151 granting an extension to a compliance date contained in Order No. 89-093.

2. The discharger currently manufactures latex, agricultural chemicals, fumigants, fungicides, and chlorinated solvents. The discharger also conducts chemical development research, treats raw water and sanitary wastes, and generates both electricity and steam at the discharger's Pittsburg Plant.

3. **Scope of Permit Amendment:** This amendment affects two of the three wastewater streams regulated: Waste 001 and 003. It modifies the definition of Waste 001 and Waste 003 to reflect changes which have and will take place, and more significantly, it replaces the nickel effluent limit for Waste 003 with an interim limit and compliance time schedule.

4. In general, Finding 4.a of Order No. 89-093 defines Waste 001 as consisting of process wastewaters and stormwater runoff from certain areas of the facility (Figure 1). Currently, treatment consists of pH adjustment and clarification in an unlined pond.

5. Finding 4.c. of Order No. 89-093 defines Waste 003 as treated wastewaters from the groundwater treatment plant. The wastewaters consist of contaminated groundwater, and other minor waste streams generated onsite. The treatment plant currently utilizes steam stripping, pH adjustment, filtration and activated carbon adsorption.

6. Waste 001 and 003 are discharged through a combined outfall (E-001/E-003) in New York Slough at a point approximately 100 feet offshore at a depth of 25 feet.

7. The effluent limits contained in Order No. 89-093 for Waste 003 include the Basin Plan Table IV-1 metals limits, specifically, a limit for nickel of 71 ug/l. In September 1991, the discharger violated this limit for nickel. The discharger has determined that the sources are a heat exchanger in the system, and the contaminated groundwater. Since discovery of the problem, the discharger has not discharged Waste 003 except during short periods in March, April and May of 1991.

8. By letter dated April 26, 1991, the discharger requested an 18-month compliance schedule for nickel to allow them to operate the treatment plant and continue remediation of the groundwater contamination at the site. During this time, the discharger intends to evaluate treatment

technologies which will allow them to come into compliance with the Waste 003 effluent limit for nickel.

9. Review of the record for this case indicates that during issuance of NPDES Permit Order No. 89-093, the Board did not anticipate a significant source of metals to the groundwater treatment plant. The discharger designed the plant to treat organic contaminants expected in the groundwater at the facility.

10. This order amends the NPDES Permit by granting an 18-month compliance time schedule to the Waste 003 nickel effluent limit. The Board finds that this amendment is justified considering the previously unanticipated sources of nickel to the treatment plant. Also, this modification will allow the discharger to continue with the site groundwater remediation. An interim limit determined based on an EPA proposed drinking water limit is imposed on the discharge during this compliance period.

11. As part of the facility wastewater system improvements, process streams were removed from the original combined wastewater and stormwater collection system. Since January 1991, the stormwater collected in the system has been diverted to newly constructed facilities and discharged to New York Slough through a new outfall. The discharger has stated that, as far as they are aware, this stormwater includes only that which is unaffected by process related activities. The discharger intends to investigate any liquid observed in the stormwater system during dry months to eliminate the source. Also, any liquids collected in the dry seasons will be diverted to recycle or treatment, and discharged through one of the other permitted outfalls.

12. This order amends the definition of Waste 001 contained in Order No. 89-093 to include only process wastewaters and process affected stormwaters. A new wastewater discharge Waste 004 is added to cover stormwater runoff from areas on the facility as generally shown on Figure 1 (attached and made a part of this Order) which are not affected by process activities. The new system is an improvement since spills can be more easily managed. This order adds a compliance schedule for the elimination of any identified process related waste streams from the 004 system.

13. By letter dated April 26, 1991, the discharger requested inclusion of wastewater from other facilities operated by The Dow Chemical Company to the groundwater treatment plant. The wastewater consists of nonhazardous rainwater containing organic contaminants. Metals will be monitored but are not expected to be a problem. The discharger estimates the yearly volume to be less than 500,000 gallons.

14. This order amends the definition of Waste 003 to include the waste stream identified in the above finding, thereby granting the discharger's request for a material change. The Board finds that this modification is allowable because 1) the waste constituents contained in the proposed waste stream will be adequately controlled by existing effluent limits specified in Order No. 89-093, and 2) the groundwater treatment plant is capable of treating those constituents.

15. In the April 26, 1991 letter, the discharger also described planned changes to the treatment schemes for both Waste 001 and 003. The unlined surface impoundment used for Waste 001 will be replaced with above ground tankage. This will be an improvement since pH adjustment will be more effectively accomplished. For Waste 003, the groundwater treatment plant will no longer utilize steam stripping and pH adjustment. Starting in June 1991, the plant will utilize filtration, and two activated carbon beds in series with steam regeneration. The new carbon units will replace the existing dual carbon units. The discharger reports that

operational data indicate activated carbon treatment alone is sufficient to removed the organic waste constituents. Also, eliminating the steam stripper may eliminate the need for the heat exchanger which contributed to the high nickel levels.

16. The Board finds that no changes to the effluent limits or other requirements of Order No. 89-093 are necessary to address the proposed changes in waste stream and treatment schemes described in Findings 13, 14 and 15, above. The existing Permit conditions are sufficient to protect water quality for those discharges. This amendment will change the findings of Order No. 89-093 to reflect the new conditions.

17. This amendment is modification of an NPDES Permit in accordance with 40 CFR 124.5.

18. The amendment of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

19. The Board has notified the discharger and interested agencies and persons of its intent to amend waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

20. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT Waste Discharge Requirements, Order No. 89-093 for The Dow Chemical Company, Western Division, is amended as described below, and that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Amendments to Order No. 89-093

Finding 4.a. is amended to read:

> "Waste 001 consists of water treatment wastes including the supernatant from clarifier bottoms, fire protection test and washdown water, brine chemicals, stormwater from process affected areas, and occasional discharges of power plant boiler blowdown and various sitewide cooling tower blowdown streams. The average discharge rate is 0.9 million gallons per day (MGD), and the current maximum is 2.1 MGD. The waste is neutralized and clarified in an unlined pond and discharged through an outfall into New York Slough at a point approximately 100 feet offshore at a depth of 25 feet (Lat. 38°01'48", Long. 121°51'07"). By the end of 1991, the unlined pond will be replaced with above ground tankage with pH adjustment."

Finding 4.c. is amended to read:

> "Waste 003 consist of treated wastewater from the groundwater treatment plant. Waste 003 combines with Waste 001 in the discharge pipe leading to the E-001/E-003 outfall. The discharger owns and operates several waste management units which contain wastes ranging from liquid hazardous to nonhazardous solid. Most are historical or have been closed. These units are regulated by Waste Discharge Requirements Order Nos. 87-064 and 87-158. Remediation of the groundwater contaminated by some of these units is being accomplished with

groundwater extraction wells and trenches. The groundwater collected by this system is treated in the groundwater treatment plant. The treatment plant also treats wastewater from the chlorinolysis unit which exceed recycle capacity, some organic contaminated streams due to spills on the plant site, truck washdown and similar activities, and approximately 500,000 gallons per year of nonhazardous rainwater containing organic waste constituents from offsite facilities operated by The Dow Chemical Company. Starting in June 1991, the treatment plant will utilize filtration, and two activated carbon beds in series with steam regeneration."

The following Finding shall be added:

"4.d. Waste 004 consists of stormwater runoff collected by the drain system that historically functioned as the combined process wastewater and stormwater collection system. All known process streams have been systematically removed from the system and either recycled or discharged as Waste 001. The remaining flow consist of stormwater from areas unaffected by process related activities in the general area shown on Figure 1. The discharge is to New York Slough through a newly constructed outfall E-004, located approximately 22 feet offshore at an average depth of 10 feet (Lat. 38°01'44", Long. 121°50'56")."

The following Effluent Limit Shall be added:

"A.11. The discharge of process wastewaters, or wastewaters other than stormwater runoff from areas unaffected by process related activities to the E-004 outfall, is prohibited."

The following provisions shall be added:

"C.17. If there is any liquid flow in the Waste 004 system after a sustained period of dry weather, the discharger shall divert the flow to recycle in the manufacturing process, or to appropriate treatment for discharge. Additionally, the discharger shall achieve full compliance with Effluent Limit A.11, in accordance with the following task and time schedule:

	Task	Compliance Date
a.	Initiate the investigation to identify the source(s) of dry weather flows.	July 1, 1991
b.	Eliminate all process sources of wastewater to the 004 system.	October 1, 1991
c.	If during the investigation performed under C.17.a., nonprocess and nonstormwater sources, such as groundwater infiltration, are found which cannot be eliminated from the system before October 1, 1991, the discharger shall propose a plan and time schedule acceptable to the Executive Officer, for removal of that source from the 004 system.	November 1, 1991
d.	Compliance with A.11 by	October 1, 1992"

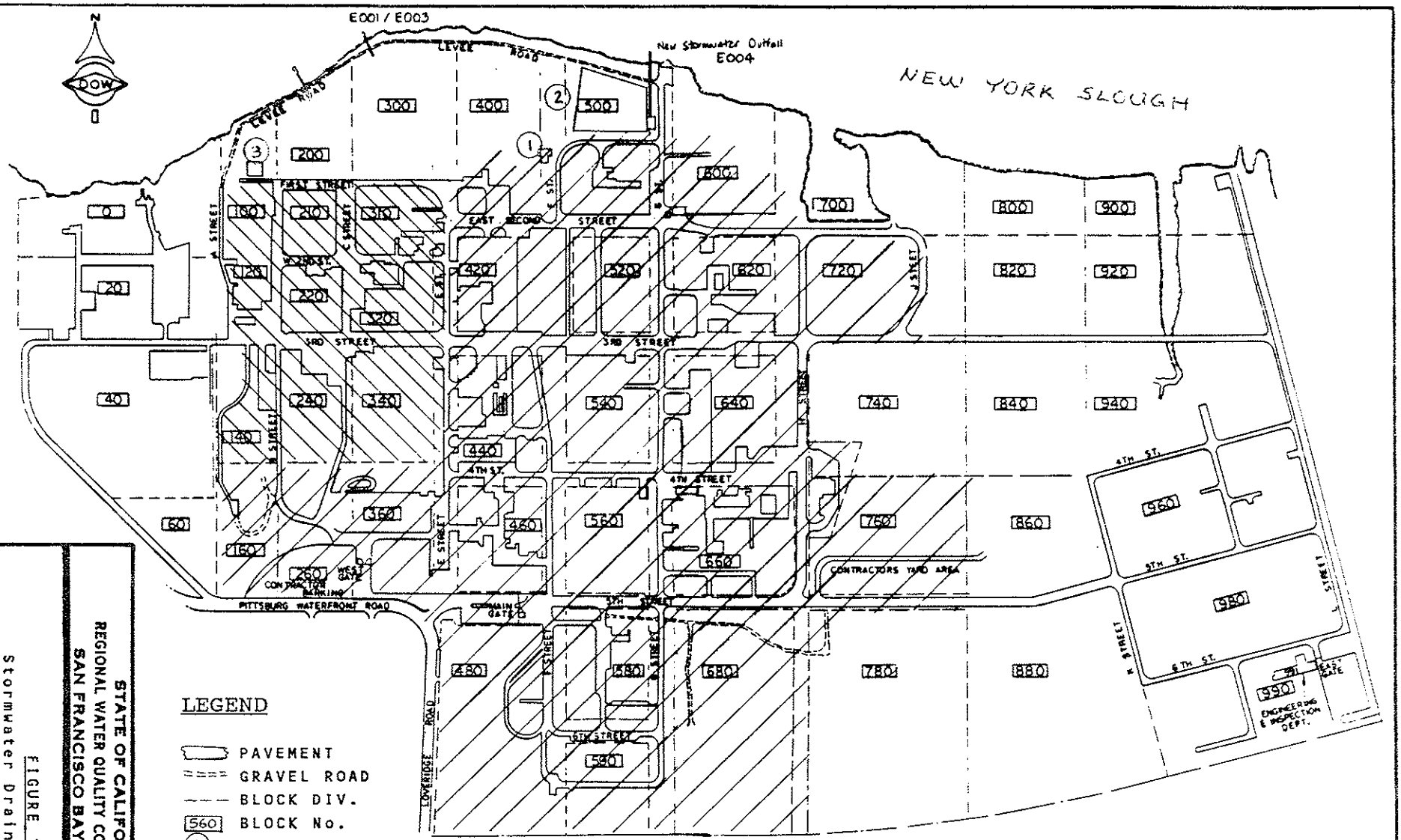
"C.18. The discharger shall achieve compliance with the Waste 003 effluent limitation for nickel specified in Effluent Limitation A.2 in accordance with the following task and time schedule:

	Task	Compliance Date
a.	Comply with an interim daily maximum effluent limit of 1.0 mg/l.	June 19, 1991
b.	Submit quarterly progress reports describing the efforts towards evaluation treatment technologies for nickel.	on the 15th day following the end of each calendar quarter, starting October 15, 1991
c.	Achieve compliance with the nickel effluent limit specified in A.2 of this Order.	January 1, 1993"

B. This Order shall serve as modification of National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the modifications shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on June 19, 1991.

STEVEN R. RITCHIE
Executive Officer



NOTES:
A. Developed process areas within shaded areas have separate stormwater collection systems which recycle the water within the plant.
B. \\\ indicates drainage to (3), //, to (1), with both discharging to the new outfall E-004.

SOURCE: Dow Chemical Company
September 27, 1990

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

FIGURE 1
Stormwater Drainage Areas
Dow Chemical Company
Pittsburg Plant

DRAWN BY: LWT | DATE: 22APR91 | ORD. NO. 91-090